# Being a surgeon–the myth and the reality: a meta-synthesis of surgeons' perspectives about factors affecting their practice and well-being

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Abstract: OBJECTIVES Synthesize the findings from individual qualitative studies about surgeons' account of their practice. BACKGROUND Social and contextual factors of practice influence doctors' well-being and therapeutic relationships. Little is known about surgery, but it is generally assumed that surgeons are not affected by them. METHODS We searched international publications (2000-2012) to identify relevant qualitative research exploring how surgeons talk about their practice. Meta-ethnography (a systematic analysis of qualitative literature that compensates for the potential lack of generalizability of the primary studies and provides new insight by their conjoint interpretation) was used to identify key themes and synthesize them. RESULTS We identified 51 articles (>1000 surgeons) from different specialties and countries. Two main themes emerged. (i) The patient-surgeon relationship, described surgeons' characterizations of their relationships with patients. We identified factors influencing surgical decision making, communication, and personal involvement in the process of care; these were surgeon-related, patient-related, and contextual. (ii) Group relations and culture described perceived issues related to surgical culture (image and education, teamwork, rules, and guidelines); it highlighted the influence of a social dimension on surgical practice. In both themes, we uncovered an emotional dimension of surgeons' practice. CONCLUSIONS Surgeons' emphasis on technical aspects, individuality, and performance seems to impede a modern patient-centered approach to care and to act as a barrier to well-being. Our findings suggest that taking into account the relational and emotional dimensions of surgical practice (both with patients and within the institution) might improve surgical innovation, surgeons' well-being, and the attractiveness of this specialty.

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# Being a Surgeon—The Myth and the Reality

## *A Meta-Synthesis of Surgeons' Perspectives About Factors Affecting Their Practice and Well-being*

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**Objectives:** Synthesize the findings from individual qualitative studies about surgeons' account of their practice.

**Background:** Social and contextual factors of practice influence doctors' well-being and therapeutic relationships. Little is known about surgery, but it is generally assumed that surgeons are not affected by them.

**Methods:** We searched international publications (2000–2012) to identify relevant qualitative research exploring how surgeons talk about their practice. Meta-ethnography (a systematic analysis of qualitative literature that compensates for the potential lack of generalizability of the primary studies and provides new insight by their conjoint interpretation) was used to identify key themes and synthesize them.

**Results:** We identified 51 articles (>1000 surgeons) from different specialties and countries. Two main themes emerged. (i) The patient-surgeon relationship, described surgeons' characterizations of their relationships with patients. We identified factors influencing surgical decision making, communication, and personal involvement in the process of care; these were surgeon-related, patient-related, and contextual. (ii) Group relations and culture described perceived issues related to surgical culture (image and education, teamwork, rules, and guidelines); it highlighted the influence of a social dimension on surgical practice. In both themes, we uncovered an emotional dimension of surgeons' practice.

**Conclusions:** Surgeons' emphasis on technical aspects, individuality, and performance seems to impede a modern patient-centered approach to care and to act as a barrier to well-being. Our findings suggest that taking into account the relational and emotional dimensions of surgical practice (both with patients and within the institution) might improve surgical innovation, surgeons' well-being, and the attractiveness of this specialty.

**Keywords:** meta-ethnography, psychology, qualitative research, surgeon, well-being

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Doctor well-being is a major public health concern worldwide,[1] as its absence or deficits have been linked to negative effects on both health care performance[2] and the mental health of practitioners themselves.[3,4] Surgery, the specialty of nearly 1 in 5 physicians, is among the most stressful. Burnout has been reported in about 40% of surgeons[5] and is independently associated with suicidal ideation (6.3% of a sample of US surgeons),[6] alcohol abuse (19.3% met the criteria),[7] and adverse effects on quality of care. Extremely long hours, work-home conflicts, and malpractice suits contribute to these high rates of deleterious outcomes.[8,9] Specific factors linked to the culture of surgery may also influence surgeons' well-being. For example, stigma, shame, and fears of career repercussions prevent surgeons from seeking mental health care.[10–12]

These issues have not been extensively studied, probably because of their complexity, which standard quantitative medical research methods cannot easily take into account. Qualitative research is today recognized as a useful and relevant source of knowledge, especially suited to the investigation of social interactions, behaviors, and perceptions within groups and teams.[13,14]

The aim of this study was, therefore, to analyze surgeons' accounts of their practices. We applied a systematic approach on the basis of a literature review of qualitative studies (known as meta-synthesis)[15] that enables to make up for the potential inability to generalize findings of individual qualitative studies because of their limited sample size, or the diversity of their samples or different contexts, and to provide new insights by a combined interpretation and comparison of the individual studies.

## METHODS

Five electronic databases (MEDLINE, CINAHL Plus, EMBASE, PsycINFO, and SSCI) were searched for qualitative research exploring how surgeons talk about their practice. We developed extensive search strategies specifically designed for each database, using both thesaurus and free-text terms (see Supplemental Digital Content Table S1, available at http://links.lww.com/SLA/A644 showing the search strategy), integrated with extensive lateral searching.

We selected only peer-reviewed journal articles published in English between January 1, 2000, and May 23, 2012 (last updated January 29, 2013), about surgeons of various subspecialties. We included multiple articles reusing the same data only if they provided useful additional data or interpretations.[16] The quality of the included studies was assessed with the Critical Appraisal Skill Program,[17] and the characteristics of each study were extracted into standard templates (see Supplemental Digital Content Table S2, available at http://links.lww.com/SLA/A645).

We have analyzed our results according to Noblit's and Hare's meta-ethnography procedure,[15] an interpretative approach that allows the systematic identification and interpretation of findings from individual qualitative studies. The steps are detailed in Table 1.

**TABLE 1.** Detail of Data Analysis Steps

| |
|---|
| Step 1: Reading and rereading the articles |
| Step 2: Identification of concept and themes |
| We systematically identified shared concepts, patterns, and themes from each individual study and mapped them. We distinguished primary themes (ie, participants' understanding) and secondary themes (ie, explanations offered by the authors). |
| Step 3: Reciprocal translation |
| Relations between the themes were explored and summarized by reciprocal translation of studies into one another (ie, "the translation of findings from individual studies to provide understanding of how they inter-relate"[16]). This process produces a higher-order level of interpretation that provides new insights (rather than simple generalizations) from the included studies. |
| Step 4: Synthesis of the translation |
| Third ordered themes issued from the step 3 were synthesized into the main themes presented in the "Results" section. |
| Step 5: Reporting |
| We report the study according to the ENTREQ statement.[18] |

Three researchers from different backgrounds (M.O., a psychologist; A.R.L., a psychiatrist; and O.F., a surgeon) and experience in qualitative research (A.R.L., M.O.) independently performed the process, discussed it in detail during study group meetings, and reached agreement about it. This procedure ensured the validity of our findings through the triangulation of perspectives.[19]

## RESULTS

Of 10,917 retrieved articles, 51 (42 primary studies) met the inclusion criteria (see Supplemental Digital Content Fig. S1, available at http://links.lww.com/SLA/A646 and Supplemental Digital Content Table S3, available at http://links.lww.com/SLA/A647). They focused on various types of surgical procedures (>20 subspecialties, see Supplemental Digital Content Table S2, available at http://links.lww.com/SLA/A645) and were based on interviews, focus groups, a combination of these, or field observations of more than 1000 surgeons. Most of the articles included came from North America (Canada, 19; United States, 7) and northern Europe (United Kingdom, 13; Norway, 4; Sweden, 2; and Netherlands, 1). Other studies came from both United Kingdom and United States (n = 2), Australia (n = 2), and Israel (n = 1). Assessment by Critical Appraisal Skill Program found that the overall quality of the articles was high (see Supplemental Digital Content Tables S4 and S5, available at http://links.lww.com/SLA/A648).

### Findings of the Synthesis

Our analysis identified 2 main themes. The first was the surgeon-patient relationship, including issues surgeons broached about their relationship with patients and directly affecting their care: decision making, communication, and personal involvement in the process of care. The second concerned group relations and culture, not directly dealing with patient care, but with the specific working milieu of surgeons; it includes the image of the surgeon, teamwork, and relations with rules and guidelines. Exemplifying quotes are presented in Table 2.

### Surgeon-Patient Relationship

Relationship with patients was the first broad theme; it included surgeons' descriptions of their decision making, communication with patients, and personal involvement in patient care.[20–52]

### Complexity of Decision Making

Surgeons stated that the decision to operate or not on a given patient was based on their expert evaluation of the patient's clinical condition and their expectation of the outcome of surgery.[20,28,29,32–34] The decision was straightforward when both were clear.[26,29,34] However, surgeons also described an extensive list of nonclinical variables that were patient-related, surgeon-related, or contextual (Table 3), which sometimes were more influential than clinical factors when the decision was not clear-cut.

One study[43] noted that surgeons acknowledged that the influence of these nonclinical factors could be avowed (in line with professional ideals, eg, in the patient's best interest), unavowed (in line with an undeclared principle, eg, influenced by time pressures), or disavowed (in the surgeon's but not necessarily the patient's best interest, eg, filling their operating lists).

### Communication

A second aspect of the relationship between patient and surgeon was communication.[22–29,31,33,35,36,39,44,47] Its functions extended beyond simply providing information, and its goals also included ensuring that patients accepted the decision to operate, so that they shared its ownership[20,22,26,28] and preparing both themselves and the patient for possible difficult intra- and postoperative developments.[23,28] Seeking patients' trust was central to this process[22–26,28,29,31,39,47] and was facilitated by directness and demonstration of expertise.[25,27,29,31] Difficulties arose when patients did not seem (able) to commit to this contract because of their unrealistic expectations or unquestioned faith, need for extensive explanations, or noncompliance.[20,22–24,26,28,30,47]

Common aspects of surgeons' communicative style were highlighted[25–29]: the information provided was restricted mainly to hard clinical data on diagnosis and treatment,[25,28] was tailored to maintain hope,[25,27] taking into account background information or psychology,[28,29] and was presented as a team collective responsibility.[25,26,29]

### Responsibility

Responsibility for decision making was a strong theme. Although surgeons took personal responsibility for choosing to operate on a patient, the need to share this responsibility with the patient was clearly expressed.[22,23,30,31,34,43,48,49]

Surgeons' responsibility was described as a physical involvement (ie, by performing the surgery, rather than simply recommending it, as specialists from other fields do[23,26]) and most of all as a personal commitment to deal with any complications.[23,28] Indeed, just as an operation, once started, must be completed, patient's management continues, in what was described as a continuum, until the patient has recovered from surgery or dies. A mutual commitment through postoperative care was thus actively sought by surgeons during the preoperative encounters.[24,28]

### Personal Involvement and Emotions

The emotional dimension of the patient-surgeon relationship emerged clearly from surgeons' narratives.[20,22,23,25–28,31,33,39,40,41,50–52] Surgeons expressed empathy toward patients' fear or distress[22,31,33] and sought to make them feel special[27] or leave them with a good impression.[25] The bond with their patients was strongest when the risk of surgery was high,[22,28,30,31] when the patient was a coworker or a friend,[34] or when they identified with the patient.[20]

**TABLE 2.** Exemplifying Quotes From the Original Papers

***Theme 1. Surgeon-patient relationship***

Complexity of decision making

- [the decision to recommend surgery includes] "my assessment that I'll be able to do it without killing her"[29(p6)]
- "What we are dealing with . . . is whether the right surgeon is dealing with the right procedure . . . "[50(p6)]
- "in my last practice I had a 2-year waiting list to do a hip. And you are very much more rigorous in who you are going to do and under those circumstances, everyone who needs one isn't going to get one"[37(p3)]
- "These are the gray zones, but most people are in the gray areas . . . . I don't feel comfortable in that role."[37(p4)]
- "If you do an average operation on a patient who is going to do well, they'll probably do well. Whereas if you do a technically fantastic operation on a patient whose going to do badly, they'll do badly, and so measuring your outcome has as much to do with who you pick to do it on, which is why crude measures of death rates. .. are not very good."[50(p4)]

Communication

- "The patient's perception . . . is like they're coming in and getting a haircut. They have no idea . . . . I tell every patient 'don't forget this is major surgery inside; it's minor surgery outside.'"[28(p1344)]
- "If they look terrified, I'm not going to talk about it until the pre-assessment clinic when the consenting process takes place."[29(p7)]
- "It's all about social interaction . . . it's almost like they're not listening to the words you're saying . . . . I just try to gauge on body language."[27(p451)]
- "I try not to say, "I'm afraid'' or ''I'm sorry'' or ''I've got some bad news," or anything negative. I try to come out with it straight, fairly quickly . . . ."[27(p452)]
- "The most difficult patients are those that have a pain somewhere but can't express themselves. It's difficult to tackle these."[47(p130)]
- "Informed consent starts when you shake hands with the patient."[28(p1344)]
- ". . . for the patient to develop an understanding of what's going to happen during the operation, and what to expect afterwards and I may be better prepared to deal with adverse outcomes."[28(p1345)]

Responsibility

- "Someone walks into your office today and has an esophageal cancer and you operate on him, and he dies of the operation the day after; he could have had 6 months or a year of life that you robbed him of."[28(p1343)]
- "If I'm going to operate on those high risk patients, I'm committed to pulling them through that high risk [postoperative] period . . . "[28(p1345)]
- "If I have to make a decision, I have to carry the consequences of my decision-making. If [the group] makes the decision, everybody walks away from the meeting not giving a damn about the decision . . . it's no longer mea culpa."[28(p452)]
- ". . . obviously you do not want to be the agent that, you know, kills someone in the operating room . . . " [23(p845)]

Personal implication and emotions

- "I honestly think I almost crashed into 4 parked cars before I got out of the parking garage that day. I was so distraught."[41(p1183)]
- "[I feel] a pall over everything, like I couldn't sleep without thinking about it . . . . I grieve for how badly it makes me feel. I'm always saying I've got to get out of this business because it's hard. It's depressing . . . ."[41(p1183)]
- [About knowing that other surgeons feel similar emotions] "Good, I'm glad to hear it. It's lonely"[41(p1182)]
- "that's my death . . . my failure"[28(p1346)]
- ". . . because you know the surgeon in some sense is the intervention that the surgeon imposed on the person [and hence] put them in a life or death question situation . . . "[23(p846)]
- ". . . you might feel terrible, you always feel terrible, but you might feel really terrible if it was a completely elective procedure . . . "[23(p845)]
- "There's tachycardia. There's some tachycardia and some unease . . . there's still that anxiety . . . . It's the same sort of feeling you get if something tragic happens in your life, somebody important in your life is no longer there. It's a different feeling but it's in the same category of things. That's when I sort of feel that I need to run and hide."[41(p1183)]

***Theme II. Group relations and culture***

Image and identity of surgeons

- "Because we have been educated to be champions and winners, we have never been educated to recognize the potential of an adverse event."[23(p846)]
- "I can't assume that everybody is doing it [a given operation] like me, God Forbid!"[60(p275)]
- "I was called a pussy willow that I wouldn't operate these things."[63(p1370)]
- "You cannot walk around with that individualistic approach saying, 'if it goes well, then it's my honour, and if it goes bad, it's my fault.'"[20(p768)]
- "The whole persona of a surgeon is somebody who can make quick decisions and cope with anything. Except when things go wrong . . . then that same person can't think straight, makes mistakes, and loses all judgment."[52(p537)]
- "One of my teachers used to say there's nothing in this world more dangerous than a surgeon who has got a gap in their OR schedule."[43(p1370)]

Rule, guidelines, and evidence-based medicine

- "There are guidelines for care but it's perfectly legitimate to depart from them where there are justifiable reasons. So it may well be that what is regarded as a departure from a guideline today, may be a trigger for incorporating something into the guideline tomorrow."[45(p188)]
- "Surgeons are just more adventurous now. You want a lucky surgeon, you don't want a good surgeon. You want a lucky surgeon because the lucky ones get away with things."[47(p192)]
- "Surgeons are valued for their ability to cut, whether they can appraise the literature seems less important, so it's no wonder that we don't have any EBM leaders in surgery."[60(p1186)]
- "evidence lies not within RCTs and scientific enquiry, but through surgical experience, skill and a surgeons' success rate."[63(p823)]

Team relationships

- "When it goes well and the patients are content, then it's amazing . . . . And when you're doing well and the patients are content and your colleagues are content, then it gives a great feeling of satisfaction."[20(p769)]
- "I think it's just expected that we have enough inside to handle it [ . . . ] . . . . I feel there's a lot of loneliness in our profession."[20(p769)]
- "I'm not going to risk being a trendsetter and tell a staff surgeon that his technique is dated, even if I know that other centers are favoring a less costly and more effective one—what for? I already know his response: 'I've been doing this operation for 15 years now and it's worked well for me.'"[70(p1185)]
- "it's not a bad word, it gets people's back up and you could hear . . . resentment about the culture that has been built around harassment."[49(p930)]
- ". . . in the back of my head, probably the people I remember the most in my training are the guys that are a little bit scary at times."[49(p931)]
- "I know I don't feel comfortable talking to my colleagues about it. I'm not sure they would be as much support perhaps as they should be."[41(p1182)]

Another aspect of this emotional dimension emerged during discussion of errors and adverse events, perceived by surgeons as a major source of unpleasant emotions,[20,23,30,31,39,40–42,50–52] physiological stress, cognitive dysfunction, and a variety of negative feelings that deleteriously affected their practice (Table 4). Investigators from 2 independent studies pointed out that many surgeons felt unique in their emotional reactions and were relieved to learn that other surgeons experienced the same.[39,41]

## Group Relations and Culture

The second theme was group relation and culture in a setting with its specific cultural identity, educational system, rules, and guidelines.[20,21,23,24,30–32,35,39,40–46,48–70]

## Surgeons' Image and Identity

Surgeons acknowledged their strong cultural identity (image), described as a ritualistic, social construction that is informally and implicitly transmitted from one generation to the next[20,49,62]: the so-called "hidden curriculum."[42,43,48,49,54,62] Attached to this identity are shared social values (eg, doing a meaningful work), requirements (corresponding to subjective idealized concepts, such as self-confidence), and expectations (presented as moral imperatives such as not giving up and being successful) (Table 5).

This identity was reinforced by the description of surgery as an art[60–62] that is performed in operating "theatres"[60–62] and cannot be learned from books, where each operation is unique (in particular, due to patients' specific anatomy), performed differently

**TABLE 3.** Nonclinical Variables Identified by Surgeons as Influencing Their Decision

| |
|---|
| *Patient-related* |
| Controversial conditions |
| Age, obesity, comorbidities, reoperation; Jehovah's Witnesses; palliative care, palliative surgery.[21,23,30,33,38,61] |
| Nonclinical conditions |
| Social and cultural situation or position, family support, occupation, lifestyle choices, leisure activities, geographic location, psychological characteristics, determination to survive, mental state,[21,28,29,34,38,43] patient pressure to be operated.[43] |
| *Surgeon-related* |
| Personal technical expertise |
| Skill, ability to perform surgery, experience.[21,29,34,50,54,60] |
| Personal clinical expertise |
| Ability to predict risk, anticipate outcome and benefit of surgery.[21,31–33,43] |
| Personal involvement |
| Commitment to patient, fatigue, previous bad experience, ego, and confidence.[28,30,34,35,43,60,61] |
| *Contextual* |
| Practice-related |
| House norms, resources, type of surgical practice, teaching and time pressure, monetary motivation;[11,37,43,44,61] waiting list, access to operating room, home care or postoperative support;[21,37,38] quality of assistant or equipment.[61] |
| Practitioner-related |
| Achieving good statistics, comparing and competing with other surgeons, the hospital hierarchy; concern for personal image, and reputation from referring physicians, colleagues, or nurses.[21,27,29,43,44] |

**TABLE 4.** Description, Consequence, and Coping Strategies Narrated by Surgeons of Stress and Adverse Events (AE) [20,23,39–42,50–52]

| |
|---|
| *Acceptance* |
| Initially |
| Errors and AE considered inevitable; talk about the experience of other surgeons; denial it has an influence and reluctance to talk about their own experience |
| Subsequently |
| Acknowledged individually, well described, link error and AE, relieved other surgeons experience the same |
| *Consequence* |
| Physiological |
| Heart pounding, sweating, headache, physical tension, feeling shaky, clumsy |
| Cognitive |
| Impaired decision making, less dexterous, difficulty concentrating |
| Emotional |
| Anxiety, panic, anger, frustration, irritation; feeling of isolation, loneliness, vulnerability, guilt, humiliation, identifying with patients, struggle to find support, self-punishment, sleeplessness, diminished self-confidence |
| Professional |
| Cascade of errors and complications; fear of lawsuit, loss of patient trust, loss of reputation, worry about their image; difficulty dealing with patients and family; change of practice, early retirement |
| *Coping strategies* |
| Personal |
| Learn by trial and error, anticipate, being an expert; quickly recovering, moving on, repressing feelings; trying to forgive themselves |
| From the group |
| Seeking technical help from uninvolved colleagues; no or little personal or emotional support |
| External |
| None report seeing a counselor or psychologist |

AE indicates adverse event.

**TABLE 5.** Surgeons' Image and the Hidden Curriculum, as Narrated by Surgeons

| | Effects on Their Practice |
|---|---|
| Values | |
| Prestige, belongs to a "destiny community," fellowship of mutual understanding, does meaningful work | Helpful for coping with difficult situations.[20] |
| Requirements [20,41,48] | |
| Strength, being "an absolute rock," self-confident, able to cope with existential challenges without expressing emotions, independent | Individual personal vulnerability,[20,44] do not express their fragility[41]; do not show stress because it is seen as a weakness[51,52]; need to be reassured[41]; feeling more sensitive than other surgeons,[51] culture of competition |
| Expectations [26,48,62] | |
| Do everything possible, without giving up; do not abnegate responsibility | Goal of surgery is cure[33]; fear of giving the impression that the surgeon is giving up[38]; challenge of continuing to provide care as commitment to serve and patients' health decline[53]; frustration[57]; powerlessness[54]; perceive self as the (sole) patient advocate[57]; believe anesthesiologists and nurses have different motivations[45]; perception of AD[24] |
| Quick, decisive, and able to accomplish immediate task-related goals | Identity as a "good" surgeon is linked to performance; efficiency defined as a production time per unit[45]; link between task and self in case of AE[20]; be "successful," "pressure to appear busy," filling in the operating list, "nothing more dangerous than a surgeon who has a gap in their operating room schedule"[43]; difficulty in making the transition from routine to effortful in the operating room.[46] |
| Necessity of perfection and (individual) success | Risk criticism, wonder if others think they are good or bad surgeons[41]; seldom question or agree to be questioned about their procedures or practice[62,70]; culture of pride; offended when patients seek second opinion[44]; minimize the extent of complication or extent of operation required[41] |

AD indicates advance directive; AE, adverse event.

by each surgeon using his or her own instinctive "hunches" or "gut feeling,"[45,55,60–62,66] and techniques adapted to his or her own hands.[60]

Unlike in medicine, surgeons mainly acquired experience as apprentices to master surgeons, through a lengthy, personal process of trial and error and frontline experience.[42,53,55,60,62,70] All these processes had a number of implications on surgeons' practice, the most prominent of which was the vulnerability of their professional identity, due to the bond between this identity, their task, and its outcome.[20,23,40,42–44,56] Surgeons acknowledged that this way of functioning, and their consequences, were not addressed in their education.

## Rule, Guidelines, and Evidence-Based Medicine

These issues were addressed in a number of studies.[23,24,45,55,60,62,63,65,66,68,70] Surgeons found that written rules, guidelines, and evidence did not seem to fit the surgical model.[45,55,60,62,66,70] Informed consent (or advanced directives) was considered to be disconnected from surgical reality and potentially counterproductive.[23,24,28] Surgeons considered their own patients to differ from those included in surgical trials and to frequently meet the exclusion criteria of these trials.[66,68] The corollary is that the unpredictable course of what happens in the operating room (with its ensuing risks) was described as normal, and, therefore, tacitly tolerated, accommodated by flexibility, or occasionally overcome by using new, unorthodox practices, or innovations.[45,55,65] The image of the real surgeon was that of a highly skilled professional, who did not (and should not) need to work with protocols, was a daily risk taker, able to react on the hoof, and innovative.[45,55,65]

## Team Relationships

Most studies explored group aspects and intrateam relationships.[20,29,30–33,35,39,31,43,44,47–49,54–58,67,69] Relationships with colleagues, trainees, and nurses were described as professionally beneficial: their clinical experience was enriching, consensus could be reached for difficult decisions, and responsibilities could be shared.[20,21,22,39,41,48,69] Surgeons depicted a family-like atmosphere in the operating room, where good music or fun contributed to creating a specific social environment.[67] The team was also, however, a source of ethical dilemmas or conflict.[20,30,35,39,33,34,49,53,55,57,58] These were related especially to the mode of training surgeons,[30,45,49,53,62] the influence of rank and power,[30,35,56] the dissonant perceptions of the roles or motivations of each group member,[55,57,58] and the absence of written protocols. Communication within the team ranged from reluctance to express disagreement to explosive bursts of irritation and use of harsh language.[59,69]

Issues of leadership and image in the group were also prominent.[20,29,33,39,41,47,48,57,65] The group is a place where peers and trainees judge and discuss performance, defined both as quantitative production (hours, procedures)[29,57] and success.[33,65] It is also a place where each surgeon's actions are scrutinized and judged by others and thus entail the risk of criticism [41,47] and create concerns for their reputation.[39,48] The group also provided, although very inconsistently, individual personal emotional support,[20,39,41] albeit surgeons tended to turn for such support to nurses, anesthesiologists, or family (because they had a different culture), rather than surgical colleagues.[20,41] In none of the studies did surgeon report seeking professional psychological help.

# DISCUSSION

This analysis, which is to our knowledge the first systematic review of qualitative research on this topic, showed that surgeons from a variety of different specialties and from different countries described similar and consistent experiences in the 2 main themes we identified: their relationships with patients and their group behavior. Nonclinical factors, quality of life, and ethics seemed to be commonly reported elements, along with the high-salient social dimension of the surgeons' workplace. In both themes, surgeons disclosed an obvious emotional dimension that they seemed unprepared for and had

difficulties coping with. This previously unnoticed dimension adversely affected their practice and exposed surgeons to vulnerability and isolation.

Our study, specifically focusing on surgeons, shows the specific influence of the surgical culture. Surgeons are traditionally portrayed as individualistic, overconfident technicians,[71–73] who do not follow rules and spend more time with their patients when they are unconscious in the operating room than awake during outpatient or ward visits.[74–76] This review shows that surgeons themselves echo this view to some extent but justify it by the need to overcome the multiple constraints present in their work and link it to an inherited traditional culture rather than to perceived personal needs. The shared nature of this concept among coworkers and colleagues, and the specific social dynamics of surgeons' culture, reinforces—rather than challenges—this social construction.

### Implication for Education and Practice

Openly addressing the issue of surgeons' subjectivity in their practice and their inner vulnerability during the surgical curriculum is a necessary first step.

Second, while the technical aspect of surgery and the qualities required to perform it cannot be understated, surgeons are also physicians, and medicine cannot remove the relational dimension from the process of care.[77] Separating technique from patient-surgeon relationships in this period of rapidly evolving surgical technology may risk converting surgeons into mere technicians.

Third, the social and behavioral sciences are becoming increasingly important in the medical school curriculum. There is, therefore, a risk that the traditional, somewhat outdated image of surgeons may deter medical students from this specialty, increase the generation gap between surgeons, and limit education and mentorship.

Fourth, surgeons' representation of their practice as skilled and complex feats intended to prevail over not only clinical but also nonclinical contingencies reinforces the idea of an exclusive, mysterious expertise. The ensuing variations in practices (and results) create issues for both scientific evaluation and the dissemination of innovation.[78]

Fifth, surgical leadership simply cannot rely exclusively on technical excellence or on the unstated rules of the profession; it requires emotional intelligence to build a team.[79] Failure to do so may put surgical departments (and their members) at risk of isolation from other medical specialties or administration and increase their vulnerability.

### Limitations

This study has inherent limitations. First, despite our systematic method, some articles might have eluded our search strategy. Second, studies on surgeons from North America and Europe are overrepresented in this review, which may, therefore, reflect only the western medical system. Third, despite the variety of our sample, the original studies insufficiently investigated sex-related differences, whereas an increasing proportion of surgeons are women and the literature shows clear sex differences in behavior.[80]

## CONCLUSIONS

This study has brought to light an important gap between the surgical myth and what surgeons live in their daily work, revealing that beyond the somewhat illusory image of the isolated, cold technician, surgeons actually pay attention to relationships and communication. This rift between myth and reality may explain to a large extent surgeons' burnout and internal tensions. What surgeons express in their narratives, sometimes with difficulty, cannot be dismissed. Their accounts show the need to move from an implicit curriculum to an explicit one in all areas of surgical practice, to prevent surgeons from ending up as vulnerable and isolated artists, and surgery from becoming the medical specialty that transforms patients' pain into doctors' pain.

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## DISCUSSANTS

### E. Barroso (Lisbon, Portugal):

Thank you, Mr. Chairman, and thank you, Olivier, for dedicating part of this talk to me. This fantastic meta-synthesis is something new to me. I know now that it aims to produce a new, integrative interpretation of findings, which is more substantive than those resulting for individual investigators. So, I am not surprised by your results about the importance of the relational and emotional dimensions, which are prevalent in surgical practices and their implications, in terms of the well-being of the surgeons.

I tried to demonstrate this in my emotional and individual view of the well-being of surgeons and to transmit the pleasure of being a surgeon. I was surprised some moments ago, when I learned that 50% of the patients treated for rectal cancer, in France, are operated without magnetic resonance imaging. You previously told us that many centers in France perform less than 5 liver resections per year. I think that this is unacceptable. Patients trust us, so it is very important to discuss this subject. During my talk, I also said that I motivate my young surgeons to read and embrace culture. As Sir William Osler said, a long time ago, the quality of medicine is better when practiced by educated doctors. We can't be technocrats, who are obsessed only with prospective studies and are slaves to this kind of work. Assuming the quality and the validity of your methods, to certify that they are applied correctly, is key, and I am not sure that I am competent enough to judge this.

There is one important finding, which I would like to highlight from your talk—the patient-surgeon relationship, especially in the discussion of an error or adverse event. Within the surgical practice, we must behave as a family. We may be very competent, but we work better when we are together. Thank you very much for bringing us something new, which leaves technique and our egos aside, to seek more knowledge about the patients, who are the main reasons why we became surgeons. Thank you as well for reducing some of the ego that allows us to sometimes do things, for which we are not qualified.

## DISCUSSANTS

### H. Bismuth (Villejuif, France):

Olivier, I really enjoyed your lecture. You showed us that being a surgeon is not only about a surgeon looking at himself or others but also about the people looking at the surgeon. Many times, we forget this, and it is amazing to see that the public sees the surgeon in a very different way than we do. If you look at popular TV shows, such as ER or Dr. House, they are more concerned with the relationships within the surgical or medical team and with the patient than how the patient is treated. One recent illustration was a clinical case in, I believe, a German hospital, which was indirectly solved by Dr. House. It was a very difficult case, with very strange symptoms, and 1 member of the medical staff said that it was like a case solved on TV by Dr. House. I think that it was a cobalt intoxication, so the diagnosis was actually made by the TV doctor.

Now, one thing you said, pertaining to the psychology of the surgeon, is very interesting. Of course, we speak about science, but the psychological attitude of the surgeon is, as you correctly stress, more significant than that of the physician. Psychology, I would say, is an important part of the surgeon's character. Do you think we need to undergo a psychological or a psychiatric analysis before becoming a surgeon? I don't know the answer to this, but it is true that we know excellent surgeons, who are rude with their staff and the patient. The question here is whether we should take this into consideration.

At the American College of Surgeons, they sometimes give a special course on how to be a good leader in surgery. Should we also follow in this direction? On the contrary, recently, we have seen that in some enterprises, they are suppressing the hierarchy—what they call a horizontal team. There is no leader. Do you think that we have to think about this? First, how can we deal with the patient, in terms of building a relationship, while taking care of our image and not only about science; second, how should we approach the matter of hierarchy within the team?

To conclude, I will return to what Dr. Barroso said about his book, which was very true. For instance, in biliary trauma, for which I am sometimes an expert in legal proceedings, the attitude of the surgeon after the trauma is more important in the legal complaint than the trauma itself. Sometimes, the surgeon complains in front of the patient, and this was taken from Barroso's book, saying "It's terrible; I made a big mistake." He is almost crying in front of the patient and his or her family, until one of them says, again taken from the book, "Courage, doctor, you have to be strong in front of this." You are almost sure that there will be no legal action in this case. I teach this to my young surgeons, telling them to take care of their attitude in front of the patient, and sometimes, this may solve some cases. Thank you, Olivier.

### Response From O. Farges (Clichy, France):

Thank you very much, Professor Bismuth, for your comments and for your 2 questions, which I will answer very briefly. Most of us, as surgeons, are not good communicators. The ideal communication for a surgeon is being in the operating room, reaching out your hand to the scrub nurse and being given the proper instrument, without having to say anything. This poor communication is grounded in our culture and is detrimental to us, our coworkers, our patients, and the image we convey. The lack of evaluation of our communication skills starts very early on during the medical curriculum, although some countries are more advanced than others. In France, it is only relatively recently that oral tests, besides written tests, have been implemented. One of the rationales was to also evaluate the future doctors' communicative ability and psychology. Your question on the opportunity of a psychological or psychiatric analysis, before becoming a surgeon, is very relevant and has received a positive answer in various professional fields, in France (and I assume other countries). To become a magistrate, for example, the very first oral test for those having successfully passed the written tests is an interview with a psychologist and a senior magistrate. If there is any concern by either about the candidate's psychology or personality, then this candidate is excluded. The same also applies to the airline industry; many other professions and even some business schools have also started implementing this.

Your second question about surgical hierarchy and leadership has recently been addressed by Professor Rothmund, an ESA member, in a very nice article, published in the British Journal of Surgery, in June last year. Leadership requires very specific nontechnical skills, and it is not necessarily the best surgeon or the most experienced one, who makes the optimal leader. Actually, there may even be a contradiction between being a brilliant or prolific operator and being a good leader, as a leader occasionally has to take a step back, so as to push the other members of the group to the front of the

 

scene. Flattening hierarchy is required to ensure that anyone and everyone may speak out and be heard. It also helps retain people in the group and avoid a massive turnover. However, even when it is flattened, hierarchy is still present and even occasionally reinforced. Besides, a surgical team works in an environment, which includes other departments, with an administration, which does not practice a flattened hierarchy. We also need a leader, who can serve as a role model in surgical departments, as one of our goals is to train new surgeons.

Once again, thank you very much, Professor Barroso and Professor Bismuth, for your comments, as they help us challenge and rethink our traditional culture.